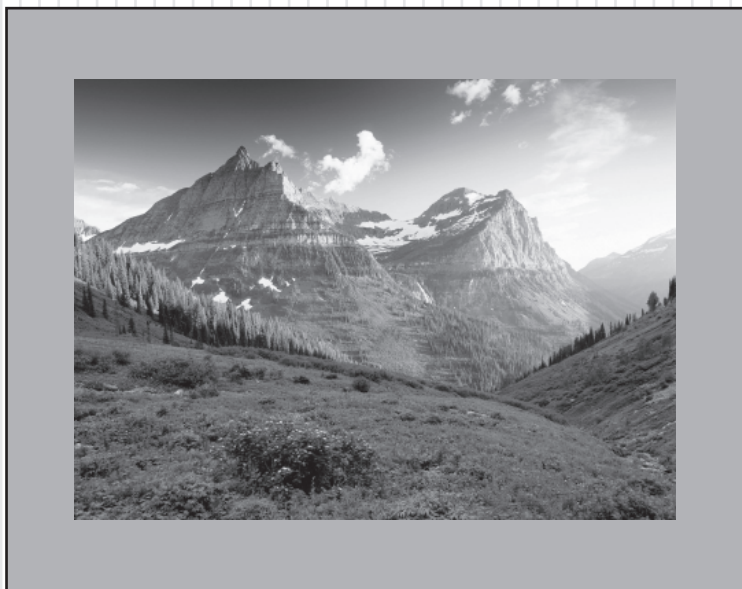


Montana
Comprehensive Assessment
System (MontCAS, Phase 2)
Criterion-Referenced Test (CRT)

COMMON CONSTRUCTED-RESPONSE ITEM RELEASE
MATHEMATICS, GRADE 4

2006



OFFICE OF PUBLIC INSTRUCTION

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Mathematics

Session 1 (Calculator)

You may use a calculator during this session.

25. Maggie asked her classmates which musical instrument they played. Her results are shown below.

Name	Instrument Played
Mona	piano
Sidney	drums
Rita	flute
Kenya	piano
Carlos	guitar
Dakota	piano
Robin	drums
Brad	flute
Tina	guitar
Abby	piano
Amber	guitar

- Make a TALLY CHART that shows the number of students who play each type of instrument.
- Make a PICTOGRAPH that shows the number of students who play each type of instrument. Be sure to
 - include the key,
 - include labels, and
 - give the pictograph a title.

Scoring Guide

Score	Description
4	7 points
3	5 – 6 points
2	3 – 4 points
1	1 – 2 points OR Minimal understanding of organizing data in a tally chart and/or displaying data in a pictograph
0	Response is incorrect or contains some correct work that is irrelevant to the skill or concept being measured.
Blank	No response.

Scoring Notes

Part a: (maximum 2 points)

2 points creates a tally chart that matches the table

OR

1 point creates a tally chart with no more than two minor errors

Part b: (maximum 5 points)

1 point appropriate title for pictograph

AND

1 point correct labels

AND

1 point pictograph key

AND

2 points all pictograph data is correct

OR

1 point three rows of pictograph data are correct

Notes

- Scorers should read along with the student. If the student makes an error in a previous part and subsequent answers are correct based on the earlier error, the student should not be penalized again.
- Student should not receive credit for title and/or labels if no attempt is made to draw a graph.

Sample Response

Part a:

Piano	[4 tallies]
Drums	[2 tallies]
Flute	[2 tallies]
Guitar	[3 tallies]

Part b:

Types of Instruments Played

Piano	X X X X
Drums	X X
Flute	X X
Guitar	X X X

X represents 1 student

Score Point 4

Sample 1

Musical Instruments	Number of Instruments
Flute	11
piano	1111
drums	11
guitar	111





Musical Instruments	Instrument Played	
	Flute	✱ ✱
	piano	✱ ✱ ✱ ✱
	drums	✱ ✱
	guitar	✱ ✱ ✱


✱ = 1 student

Sample 2

Piano	
drums	
flute	
guitar	

B. Instrument




P. 1	
Piano	
drums	
flute	
guitar	

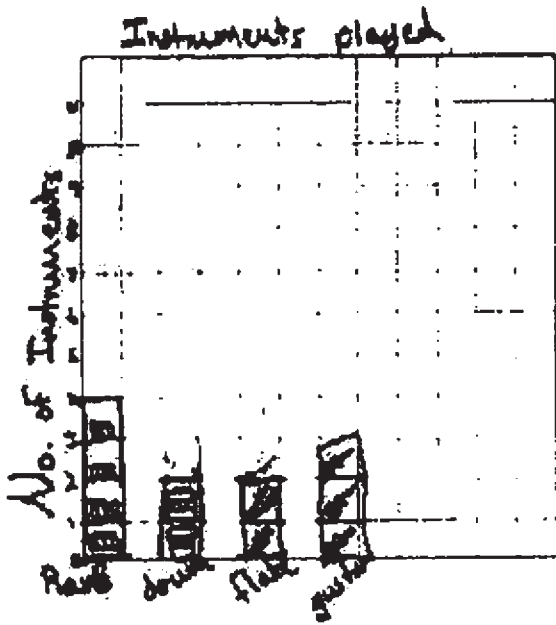
each  = 2

Score Point 3

Sample 1

(A)
Piano drums Flute guitar
iii ii ii iii

Each   
    



Score Point 3

Sample 2

Interimms played

Piano		4
drums		2
flute		2
Guitar		3

Piano	♪♪						
drums	♪						
flute	♪						
Guitar	♪	♪					

Key ♩ = 2

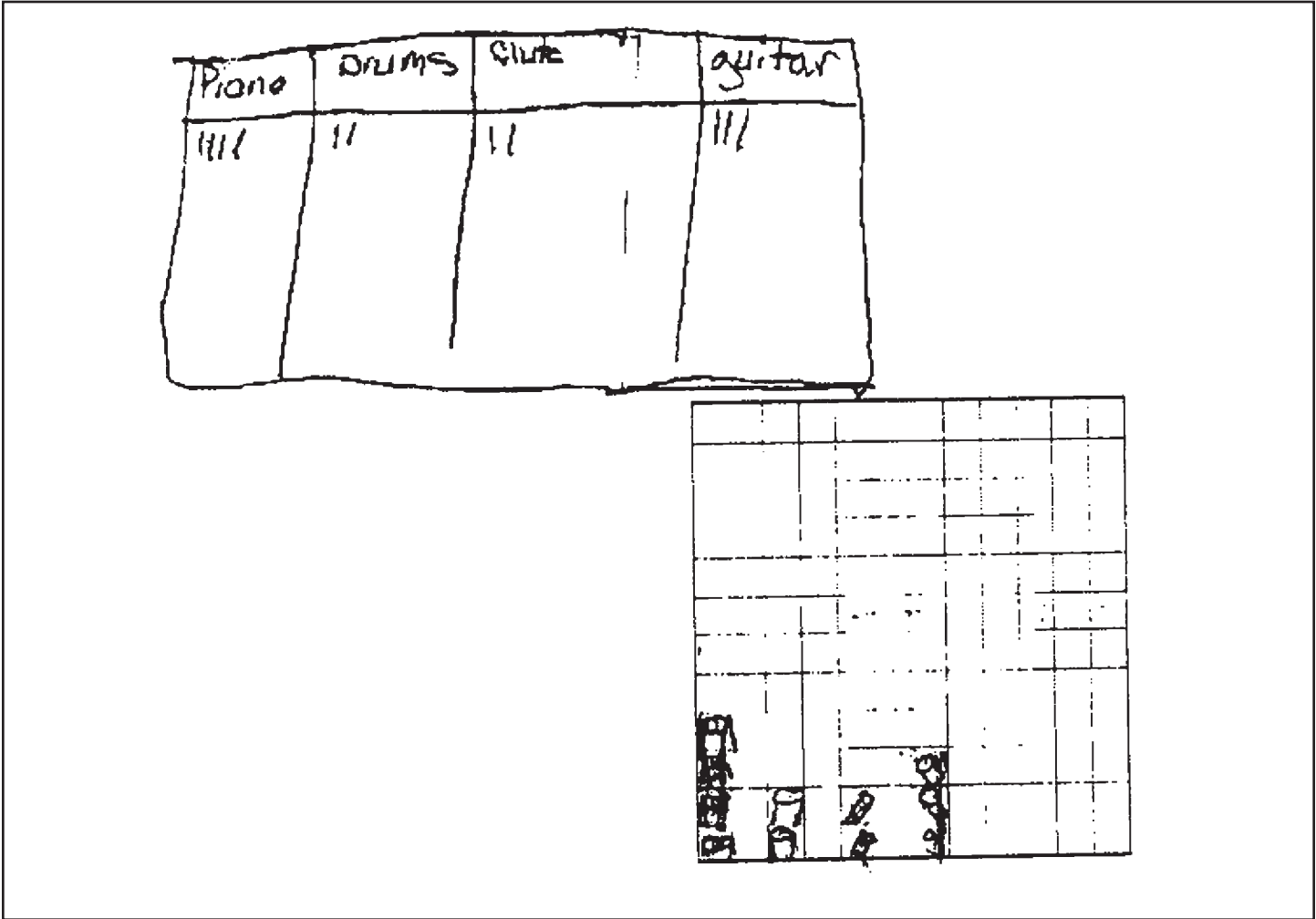
Score Point 2

Sample 1

11	2	0	0	Δ	Δ
12	0	0	0	Δ	
13	0	0	0	Δ	Δ
14	0	0	0	Δ	
15	0	0	0	Δ	
16	0	0	0	Δ	
17	0	0	0	Δ	
18	0	0	0	Δ	
19	0	0	0	Δ	
20	0	0	0	Δ	
21	0	0	0	Δ	
22	0	0	0	Δ	
23	0	0	0	Δ	
24	0	0	0	Δ	
25	0	0	0	Δ	
26	0	0	0	Δ	
27	0	0	0	Δ	
28	0	0	0	Δ	
29	0	0	0	Δ	
30	0	0	0	Δ	
31	0	0	0	Δ	
32	0	0	0	Δ	
33	0	0	0	Δ	
34	0	0	0	Δ	
35	0	0	0	Δ	
36	0	0	0	Δ	
37	0	0	0	Δ	
38	0	0	0	Δ	
39	0	0	0	Δ	
40	0	0	0	Δ	
41	0	0	0	Δ	
42	0	0	0	Δ	
43	0	0	0	Δ	
44	0	0	0	Δ	
45	0	0	0	Δ	
46	0	0	0	Δ	
47	0	0	0	Δ	
48	0	0	0	Δ	
49	0	0	0	Δ	
50	0	0	0	Δ	
51	0	0	0	Δ	
52	0	0	0	Δ	
53	0	0	0	Δ	
54	0	0	0	Δ	
55	0	0	0	Δ	
56	0	0	0	Δ	
57	0	0	0	Δ	
58	0	0	0	Δ	
59	0	0	0	Δ	
60	0	0	0	Δ	
61	0	0	0	Δ	
62	0	0	0	Δ	
63	0	0	0	Δ	
64	0	0	0	Δ	
65	0	0	0	Δ	
66	0	0	0	Δ	
67	0	0	0	Δ	
68	0	0	0	Δ	
69	0	0	0	Δ	
70	0	0	0	Δ	
71	0	0	0	Δ	
72	0	0	0	Δ	
73	0	0	0	Δ	
74	0	0	0	Δ	
75	0	0	0	Δ	
76	0	0	0	Δ	
77	0	0	0	Δ	
78	0	0	0	Δ	
79	0	0	0	Δ	
80	0	0	0	Δ	
81	0	0	0	Δ	
82	0	0	0	Δ	
83	0	0	0	Δ	
84	0	0	0	Δ	
85	0	0	0	Δ	
86	0	0	0	Δ	
87	0	0	0	Δ	
88	0	0	0	Δ	
89	0	0	0	Δ	
90	0	0	0	Δ	
91	0	0	0	Δ	
92	0	0	0	Δ	
93	0	0	0	Δ	
94	0	0	0	Δ	
95	0	0	0	Δ	
96	0	0	0	Δ	
97	0	0	0	Δ	
98	0	0	0	Δ	
99	0	0	0	Δ	
100	0	0	0	Δ	

Score Point 2

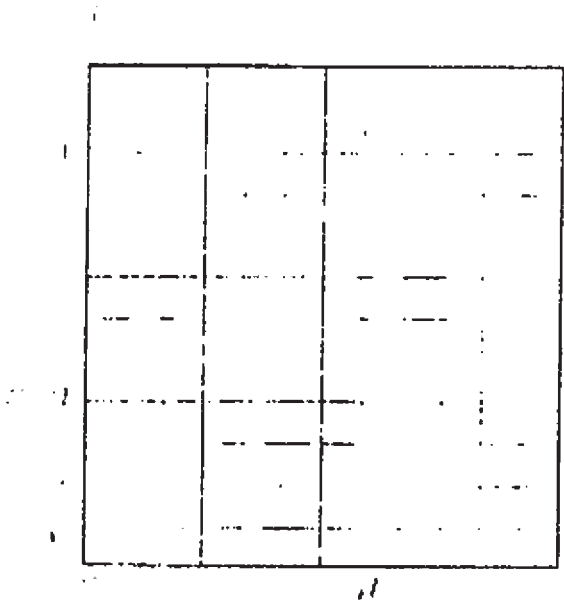
Sample 2



Score Point 1

Sample 1

guitar III
piano IIII
flute II
Drums II



Score Point 1

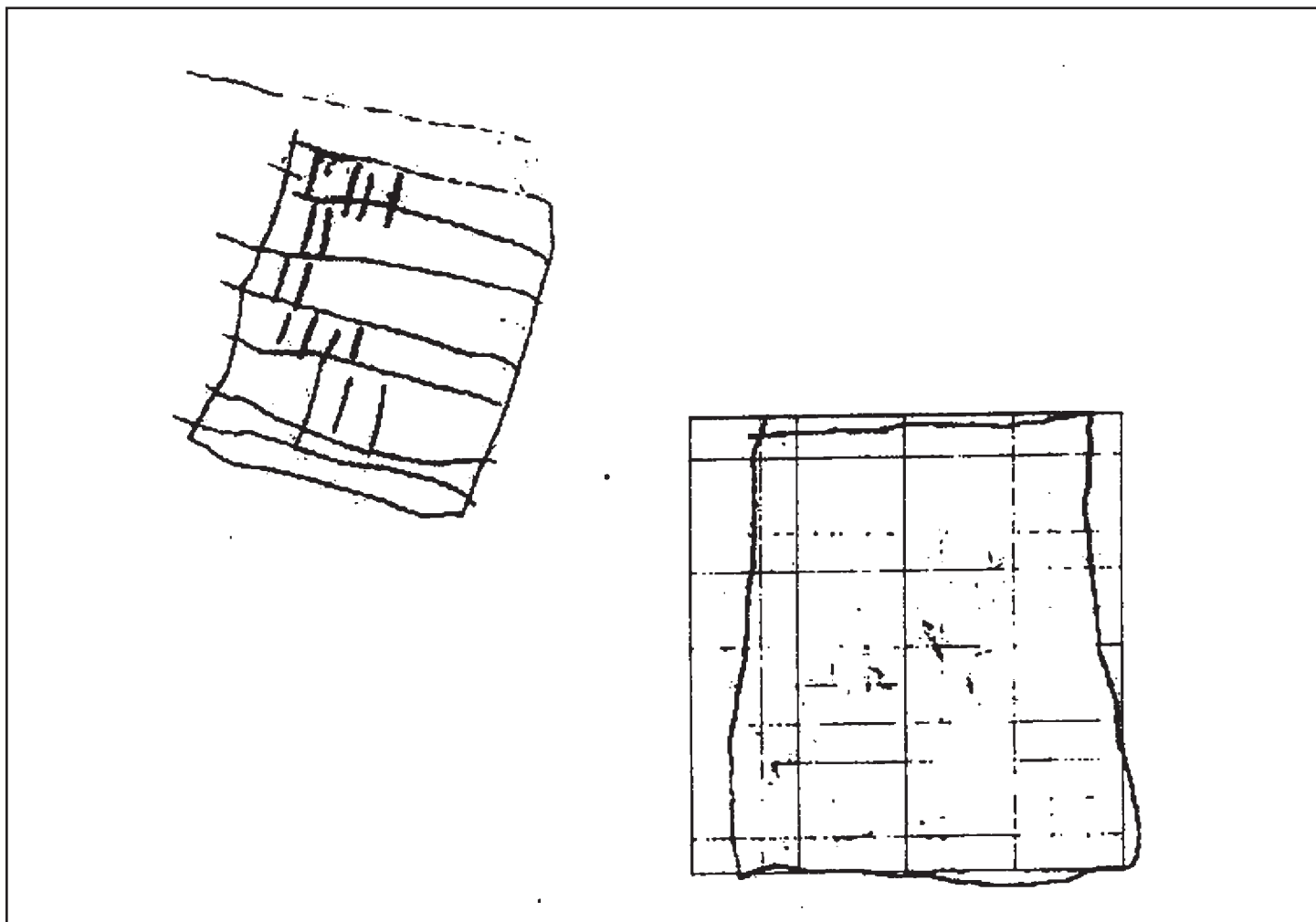
Sample 2

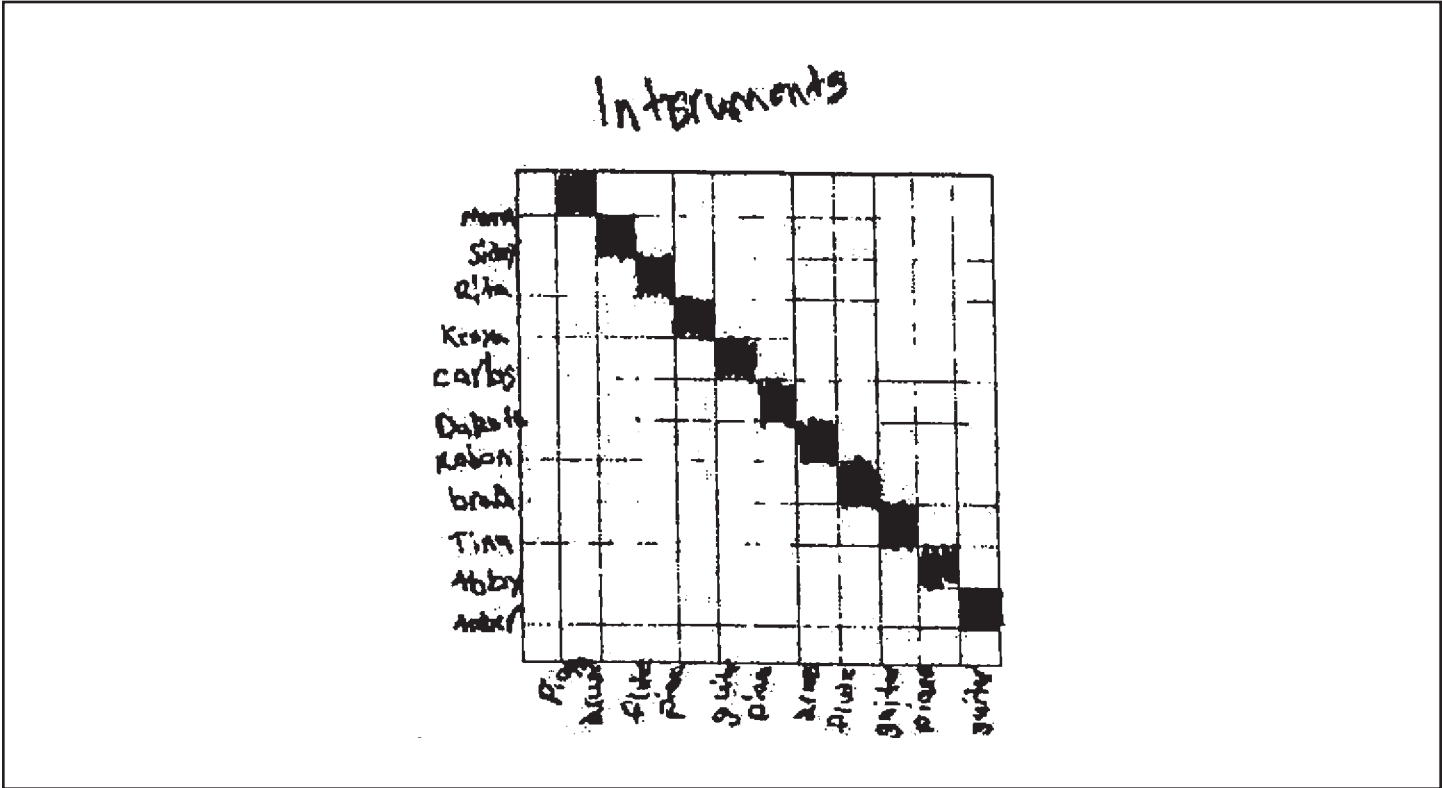
Favorite
Instrument

<u>People</u>	<u>Maria</u>	<input type="radio"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	<u>Sally</u>	<input checked="" type="checkbox"/>	<input type="radio"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	<u>Rita</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="radio"/>	<input checked="" type="checkbox"/>
	<u>Karen</u>	<input type="radio"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	<u>John</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="radio"/>
	<u>John</u>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	<u>Edna</u>	<input checked="" type="checkbox"/>	<input type="radio"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	<u>Brad</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="radio"/>	<input checked="" type="checkbox"/>
	<u>Tim</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="radio"/>
	<u>Mike</u>	<input type="radio"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<u>Instrument</u>		<u>Piano</u>	<u>Guitar</u>	<u>Drum</u>	<u>Other</u>

Score Point 0

Sample 1





Mathematics

Session 3 (No Calculator)

You may NOT use a calculator during this session.

68. At the book fair, picture books cost \$1.05 and chapter books cost \$1.75. Pablo bought 2 picture books and 1 chapter book.
- a. How much money did Pablo spend on these books? Show or explain how you found your answer.
- Dee spent EXACTLY \$7.70 buying 6 books at the book fair. She bought picture books and chapter books.
- b. How many books of each type did Dee buy? Show or explain how you found your answers. Write your answers like this:
- _____ picture books _____ chapter books

Scoring Guide

Score	Description
4	4 points
3	3 points
2	2 points
1	1 point OR minimal understanding of computing with money
0	Response is incorrect or contains some correct work that is irrelevant to the skill or concept being measured.
Blank	No response.

Scoring Notes

Part a: (maximum of 2 points)

- | | |
|----------|---|
| 2 points | correct answer with sufficient explanation or work shown to indicate correct strategy
OR |
| 1 point | correct answer
or
sufficient explanation or work shown to indicate correct strategy |

Part b: (maximum of 2 points)

- | | |
|---------|--|
| 1 point | correct numbers of books
AND |
| 1 point | sufficient explanation or work shown to indicate correct strategy
OR |
| 1 point | incorrect but reasonable combination with work that demonstrates the combination given yields a sum of as close to \$7.70 as possible without going over |

Notes

- In part a, response must include correct decimal notation for correct answer credit. Use of dollar sign (\$) is not required.
- Minimal understanding may be demonstrated by correct calculation of the cost of 2 or more picture or chapter books OR correct calculation of the cost of at least 1 picture and 1 chapter book.

Sample Response

Part a: $\$1.05 + \$1.05 + \$1.75 = \3.85

Part b: 4 picture books and 2 chapter books

$$(\$1.05 \times 4) + (\$1.75 \times 2) = \$4.20 + \$3.50 = \$7.70$$

Score Point 4

Sample 1

a. it cost her \$3.85.

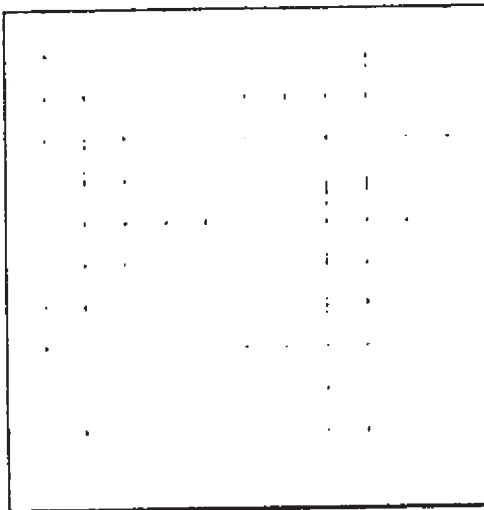
b. 4 picture books and 2 chapter books,
It cost \$7.70.

$\begin{array}{r} \textcircled{a} 1.05 \\ 1.05 \\ + 1.75 \\ \hline 3.85 \end{array}$	$\begin{array}{r} 1.05 \\ 1.05 \\ 1.05 \\ 1.05 \\ 1.75 \\ + 1.75 \\ \hline 7.70 \end{array}$
--	--

A. Pablo spent \$385

$$\begin{array}{r} 1.05 \\ + 1.05 \\ + 1.05 \\ \hline 3.15 \\ \hline 388.15 \end{array}$$

B. Dee bought four picture books and two chapter books. I kept adding until I got to \$7.70 and counted each \$1.05.



Score Point 3

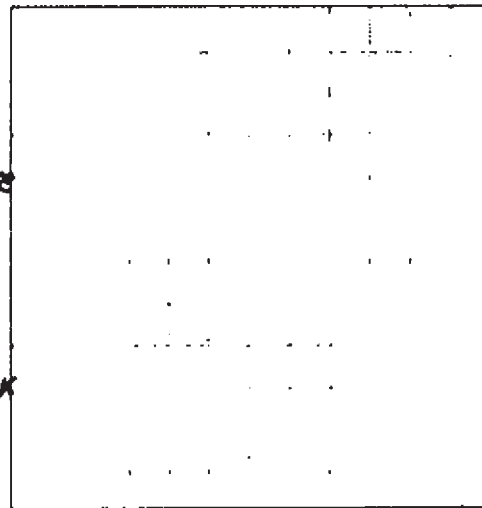
Sample 1

$$\begin{array}{r} \text{a.) } \$1.75 \\ + \$1.05 \\ + \$1.05 \\ \hline \$3.85 \end{array}$$

4 picture books

2 chapter books

I know this because
I did guess and
check multiplication
only I added money
together.



Score Point 3

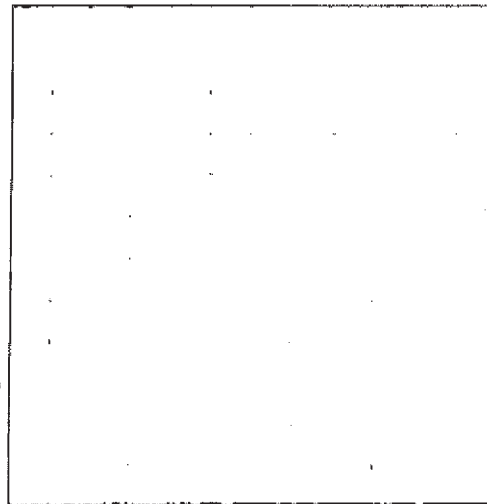
Sample 2

$$\begin{array}{r} \text{a.) } \$1.05 \\ + \$1.05 \\ + \$1.75 \\ \hline \$3.85 \end{array}$$

$$\begin{array}{r} 1.25 \\ 1.05 \\ 1.75 \\ 1.75 \\ 1.05 \\ 1.05 \\ \hline \$7.70 \end{array}$$

b.)

5 picture books
2 chapter books



Score Point 2

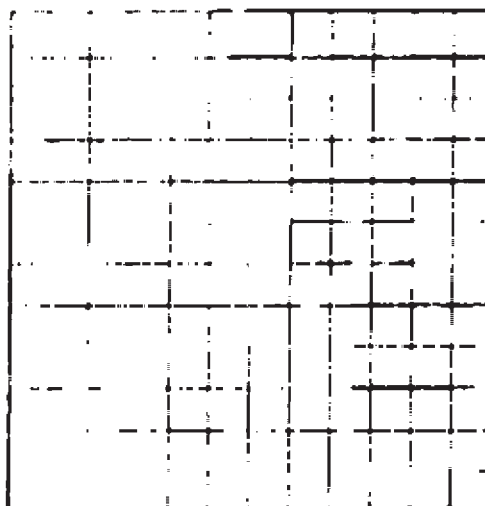
Sample 1

$$\begin{array}{r} \text{Part A} \quad \$1.75 \\ + 1.05 \\ + 1.05 \\ \hline 3.85 \end{array}$$

Part B

5 chapter
books

1 picture
books



Score Point 2

Sample 2

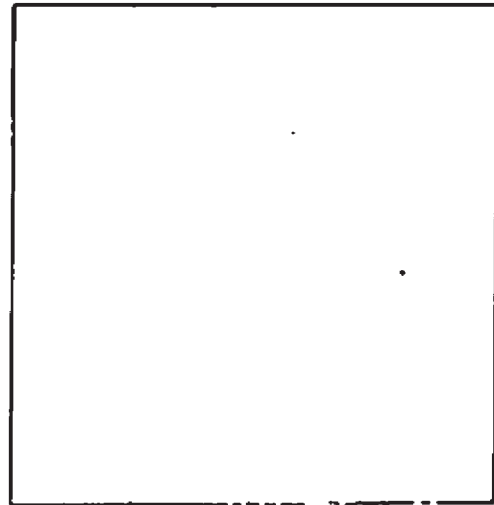
$$\begin{array}{r} \$1.05 \\ \times 2 \\ \hline \$2.10 \end{array}$$

$$\begin{array}{r} 2.10 \\ + 1.75 \\ \hline \$3.65 \end{array}$$

Show
Explan

I multiplied
\$1.05 \times 2 to
get \$2.10 then
I added \$2.10 +
\$1.75 to get
\$3.65 is how much
he spent

2 chapter books +
4 picture books



Score Point 1

Sample 1

~~AN~~ 3.85

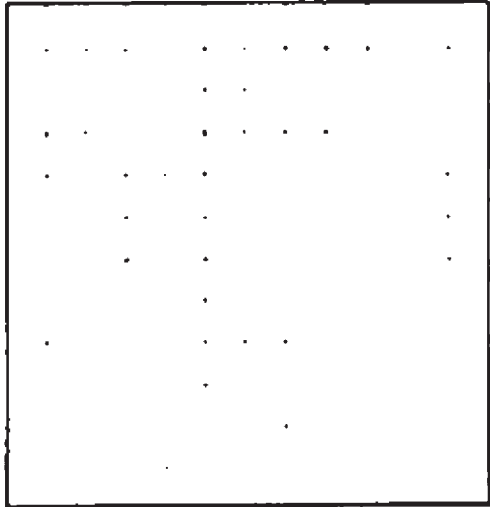
Picture Books 3
Chapter Books 3

Score Point 1

Sample 2

$$\begin{array}{r}
 \$1.05 \\
 +1.75 \\
 \hline
 \$2.80 \text{ Dollars}
 \end{array}$$

2 picture 5 chapter books

$$\begin{array}{r}
 1.75 \\
 1.75 \\
 1.05 \\
 1.05 \\
 1.05 \\
 1.05 \\
 1.05 \\
 \hline
 7.70
 \end{array}$$


Score Point 0

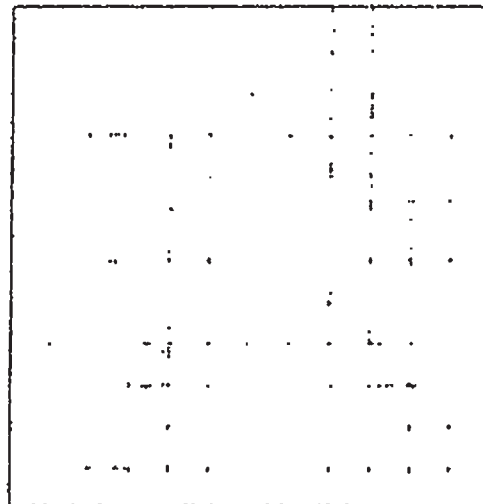
Sample 1

$$\begin{array}{r} 107 \\ + 1.75 \\ \hline 2.82 \end{array}$$

She had 6 and just split
them up like $3+3=6$
and that gives you 6

3 Picture Books
3 chapter Books

$$\begin{array}{r} 1000 \\ + 1000 \\ \hline 2000 \end{array}$$



Score Point 0

Sample 2

5.00 on chapter books
2.83 on picture books

$$\begin{array}{r} 4 \\ 1.05 \\ 1.75 \\ \hline 2.80 \end{array}$$

$$\begin{array}{r} B \\ 1.75 \\ .2 \\ \hline 1.97 \end{array}$$

